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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,464	11/26/2003	Hideki Shoji	246008US2	8112
22850	7590	04/05/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TIBBITS, PIA FLORENCE	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,464

Applicant(s)

SHOJI, HIDEKI

Examiner

Pia F. Tibbits

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,6,8,10,12,14,16,18,20,22 and 24-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/24/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in answer to the election filed 2/13/2006. Claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23 are elected, while claims 2,4,6,8,10,12,14,16,18,20,22 and 24-78 are withdrawn.

1. Applicant's election of Species I is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse. **MPEP 818.03** (a) states that "As shown by the first sentence of 37 CFR 1.143, the traverse to a requirement must be complete as required by 37 CFR 1.111(b) which reads in part: "In order to be entitled to reconsideration or further examination, the applicant or patent owner must reply to the Office action. The reply by the applicant or patent owner must be reduced to a writing which distinctly and specifically points out the supposed errors in the examiner's action and must reply to every ground of objection and rejection in the prior Office action. The applicant's or patent owner's reply must appear throughout to be a bona fide attempt to advance the application or the reexamination proceeding to final action."

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subtracting a predetermined voltage step, the adding a predetermined voltage to the measured battery voltage step, etc. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the

Art Unit: 2838

filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. For example, the specification describes at paragraph 0042 "method also comprises measuring the battery voltage in a constant current discharge circuit by measuring the battery voltage, and then, after discharge starts, measuring the battery voltage", which needs to be clarified in order to provide proper antecedence for claim recitations.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter: "adding a predetermined voltage to the **measured** battery voltage", etc. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required. Applicant is reminded to use consistent language throughout the disclosure in order to facilitate finding support for the recited limitations, as well as to provide proper antecedence for all claimed limitations.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuno** [6057671] in view of disclosed prior art, **JP-11133122**.

Art Unit: 2838

As to claim 1, Kuno discloses a method of confirming battery charge amount comprising the steps of: measuring at a plurality of battery temperatures [see figures 6, 9-11, 13, 14] a cycle test battery in respect of one selected from battery open voltage, current and voltage during discharge [see figures 7, 8, 12, 13, 14], and current and voltage during charging [see figures 7, 8, 12, 13, 14] at predetermined time intervals until substantially until battery end of life; Kuno does not disclose using measured values to generate a determination table showing relationships between prescribed charge amounts and prescribed degradation states; measuring a subject battery in respect of same said one selected from battery open voltage, current and voltage during discharge, and current and voltage during charging; and comparing determination table values with a measured value of the subject battery to confirm present subject battery charge amount and degradation state in accordance with a determination table location of matching values.

JP discloses in figures 1-6 using measured values to generate a determination table showing relationships between prescribed charge amounts and prescribed degradation states; measuring a subject battery in respect of same said one selected from battery open voltage, current and voltage during discharge, and current and voltage during charging; and comparing determination table values with a measured value of the subject battery to confirm present subject battery charge amount and degradation state in accordance with a determination table location of matching values in order to provide an accurate method for measuring the residual quantity of a battery and display the results to a user [see abstract; figures 3, 4]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Kuno's apparatus and include JP's teachings as disclosed by Watanabe in order to provide an accurate method for measuring the residual quantity of a battery and display the results to a user.

As to claim 3, Kuno and JP disclose a value of the battery open voltage V_o . As to the use of an average value of measurements made at fixed time intervals for the value of the battery open voltage, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would

Art Unit: 2838

have found obvious to provide for the method disclosed by Kuno and JP in order to improve accuracy since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 5, see remarks and references above.

As to claim 7, Kuno and JP disclose a threshold equivalent to the discharge limit voltage VL. As to the use of a constant voltage discharge value obtained by subtracting a predetermined voltage VL from the measured battery voltage, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the method disclosed by Kuno and JP in order to improve accuracy since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claims 9, 11, see remarks and references above.

As to claim 13, it would have been obvious to one having ordinary skill in the art at the time the invention was made to measure a plurality of times at fixed time intervals in order to generate a determination table, as disclosed by Kuno and JP, since it has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) and MPEP 2144.04.

As to claims 15, 19, 21, 23, see remarks and references above.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

Art Unit: 2838

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

March 26, 2006

Pia Tibbits

Primary Patent Examiner

